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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/491,991
Filing Date: January 26, 2000
Appellant(s): CHENG ET AL.

Thinh V. Nguyen
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 22 October 2007 appealing from the Office action mailed 15 November 2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is substantially correct. The changes are as follows: Claims 67-68 are also rejected under 35 USC 103(a) over Fukuta in view of Proctor in view of Fedyk.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5,090,011	FUKUTA	2-1992
6,560,654	FEDYK	5-2003
6,563,809	PROCTOR	5-2003

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-7, 10-15, 18-24, 27-32, 35-41, 44-49, 52-58, and 61-66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuta et al (hereinafter "Fukuta", 5,090,011) in view of Proctor, Jr. et al (hereinafter "Proctor", 6,563,809).

As per Claims 1, 18, and 52, Fukuta discloses a method, apparatus and a computer program product, wherein Fukuta discloses:

determining a congestion status associated with a node in the network (at least col. 4, lines 55-62; col. 7, lines 24 – col. 8 line 38), the congestion status being represented by a transit flag accessible to at least one other node in the network to determine if a call is routed through the node (at least col. 15, lines 13-36); and

broadcasting the congestion status from the node to the at least one other node in the network (at least Fig. 1, 13; col. 4, lines 55-62; transmitting to source node from switch).

Fukuta fails to explicitly disclose the congestion status notice being broadcast to and associated with a node in a single peer group or a hierarchical level. However, the use and advantages for broadcasting such information is well known to one skilled in the art at the time the invention was made as evidenced by the teachings of Proctor. Proctor teaches broadcasting a congestion indicator signal, including a flag indicator, to identify a base station operating in a congested state and states of neighboring base stations (at least col. 2 line 60 - col. 3 line 4; col. 3 line 66 - col. 4 line 21; also, col. 4, lines 32-65). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the use of Proctor's hierarchical broadcasting of such congestion notifications into Fukuta's system as this would enhance Fukata's system so that the congestion notice is sent not only to the source node but, for example, to mobile stations at a lower level and also neighboring base stations within the same peer level in order for affected nodes to be informed and aware of such network properties affecting communication.

As per Claims 2, 19, 36, 53.

measuring a node condition (threshold value) at the node, the node condition corresponding to the congestion status (at least col. 12, lines 1-15).

As per Claims 3, 20, 37, 54.

setting the transit flag, if the congestion status indicates a congestion, to indicate that a call through the node is avoided unless the node is a terminating node (at least col. 15, lines 7-67; eg. flag "1" denoting congestion state); and

resetting the transit flag, if the congestion status does not indicate a congestion, to indicate that the node is not restricted for transit (at least col. 15, lines 7-67).

As per Claims 4, 12, 21, 29, 38, 46, 55, 63.

the node is a transit node or a terminating node (at least Fig. 13).

As per Claims 5, 13, 22, 30, 39, 47, 56, 64.

Fukuta fails to explicitly disclose the node is a logical node in the hierarchical level, the logical node corresponding to a peer group at a next lower level. However, the use and advantages for broadcasting such information is well known to one skilled in the art at the time the invention was made as evidenced by the teachings of Proctor. Proctor teaches broadcasting a congestion indicator signal, including a flag indicator, to identify a base station operating in a congested state and states of neighboring base stations (at least col. 2 line 60 - col. 3 line 4; col. 3 line 66 - col. 4 line 21; also, col. 4, lines 32-65). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the use of Proctor's hierarchical broadcasting of such congestion notifications into Fukuta's system as this would enhance Fukata's system so that the congestion notice is sent not only to the source node but, for example, to mobile stations at a lower level and also neighboring base stations within the same peer level in order for affected nodes to be informed and aware of such network properties affecting communication.

As per Claims 6, 23, 40, 57.

Fukuta fails to explicitly disclose the at least one other node is one other logical node in the hierarchical level, the one other logical node corresponding to one other peer group at a next lower level. However, the use and advantages for broadcasting such information is well known to one skilled in the art at the time the invention was made as evidenced by the teachings of Proctor. Proctor teaches broadcasting a congestion indicator signal, including a flag indicator, to identify a base station operating in a congested state and states of neighboring base stations (at least col. 2 line 60 - col. 3 line 4; col. 3 line 66 - col. 4 line 21; also, col. 4, lines 32-65). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the use of Proctor's hierarchical broadcasting of such congestion notifications into Fukuta's system as this would enhance Fukata's system so that the congestion notice is sent not only to the source node but, for example, to mobile stations at a lower level and also neighboring base stations within the same peer level in order for affected nodes to be informed and aware of such network properties affecting communication.

As per Claims 7, 15, 24, 32, 41, 49, 58, 66.

the network is an asynchronous mode transfer (ATM) network (at least col. 1, lines 11-20).

As per Claims 10, 27, and 61, Fukuta discloses a method, apparatus, and a computer program product to manage congestion in a network, the method comprising:

receiving a congestion status (congestion notice) associated with a node in a network, the congestion status corresponding to a measured node condition at the node and being broadcast by the node to at least one other node in the network, the congestion status being represented by a transit flag accessible to the at least one other node to determine if a call is routed through the node (at least Fig. 1, 13; col. 15, lines 13-36); and

routing the call based on the received congestion status (polling) (at least Fig. 26; col. 16, lines 21-40).

Fukuta fails to explicitly disclose the congestion status notice being broadcast to and associated with a node a single peer group or a hierarchical level. However, the use and advantages for broadcasting such information is well known to one skilled in the art at the time the invention was made as evidenced by the teachings of Proctor. Proctor teaches broadcasting a congestion indicator signal, including a flag indicator, to identify a base station operating in a congested state and states of neighboring base stations (at least col. 2 line 60 - col. 3 line 4; col. 3 line 66 - col. 4 line 21; also, col. 4, lines 32-65). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the use of Proctor's hierarchical broadcasting of such congestion notifications into Fukuta's system as this would enhance Fukata's system so that the congestion notice is sent not only to the source node but, for example, to mobile stations at a lower level and also neighboring base stations within the same peer level in order for affected nodes to be informed and aware of such network properties affecting communication.

As per Claims 11, 28, 45, 62.

accessing the transit flag set by the node (at least col. 15, lines 54-64).

As per Claims 14, 31, 48, 65.

routing the call to the node if the node is a terminating node;

routing the call to the node if the node is a transit node and the congestion status indicates that the node is not congested (polling) (at least Fig. 13, 26; col. 16, lines 21-40); and

routing the call to an other node if the node is a transit node and the congestion status indicates that the node is congested (at least col. 15, lines 13-67; eg. flat indicates congestion).

As per Claim 35, Fukuta discloses a system interfacing to a network wherein Fukuta discloses:

a processor coupled to the network (at least col. 15, lines 19-26); and

a memory coupled to the processor (at least col. 15, lines 19-26), the memory managing congestion in the network, when executed causing the processor to:

determine a congestion status associated with a node the network, the congestion status being represented by a transit flag accessible to at least one other node in the network to determine if a call is routed through the node (at least col. 15, lines 13-36; col. 4, lines 55-62; col. 7, lines 39-47); and

broadcast the congestion status from the node to the at least one other node in the network (at least Fig. 1, 13).

Fukuta fails to explicitly disclose the congestion status notice being broadcast to and associated with a node in a single peer group or a hierarchical level. However, the use and advantages for broadcasting such information is well known to one skilled in the art at the time the invention was made as evidenced by the teachings of Proctor. Proctor teaches broadcasting a congestion indicator signal, including a flag indicator, to identify a base station operating in a congested state and states of neighboring base stations (at least col. 2 line 60 - col. 3 line 4; col. 3 line 66 - col. 4 line 21; also, col. 4, lines 32-65). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the use of Proctor's hierarchical broadcasting of such congestion notifications into Fukuta's system as this would enhance Fukata's system so that the congestion notice is sent not only to the source node but, for example, to mobile stations at a lower level and also neighboring base stations within the same peer level in order for affected nodes to be informed and aware of such network properties affecting communication.

As per Claim 44, Fukuta discloses a system interfacing to a network wherein Fukuta discloses:

a processor coupled to the network (at least col. 15, lines 19-26); and

a memory coupled to the processor (at least col. 15, lines 19-26), the memory managing congestion in the network, when executed causing the processor to:

receive a congestion status (congestion notice) associated with a node in the network, the congestion status corresponding to a measured node condition at the node and being broadcast by the node to at least one other node in the

network, the congestion status being represented by a transit flag accessible to at least one other node in the network to determine if a call is routed through the node (at least col. 15, lines 13-36; Fig. 1, 13); and

route the call based on the received congestion status (polling) (at least Fig. 26; col. 16, lines 21-40).

Fukuta fails to explicitly disclose the congestion status notice being broadcast to and associated with a node in a single peer group or a hierarchical level. However, the use and advantages for broadcasting such information is well known to one skilled in the art at the time the invention was made as evidenced by the teachings of Proctor. Proctor teaches broadcasting a congestion indicator signal, including a flag indicator, to identify a base station operating in a congested state and states of neighboring base stations (at least col. 2 line 60 - col. 3 line 4; col. 3 line 66 - col. 4 line 21; also, col. 4, lines 32-65). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the use of Proctor's hierarchical broadcasting of such congestion notifications into Fukuta's system as this would enhance Fukata's system so that the congestion notice is sent not only to the source node but, for example, to mobile stations at a lower level and also neighboring base stations within the same peer level in order for affected nodes to be informed and aware of such network properties affecting communication.

Claims 8-9, 16-17, 25-26, 33-34, 42-43, 50-51, 59-60, and 67-68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuta in view of Proctor and further in view of Fedyk et al (hereinafter "Fedyk", 6,560,654).

As per Claims 8, 16, 25, 33, 42, 50, 59, 67.

Fukuta and Proctor fail to disclose the node being a private network-to-network interface (PNNI) node. However, the use and advantages for using such an interface is well known to one skilled in the art at the time the invention was made as evidenced by the teachings of Fedyk. Fedyk discloses using a PNNI interface within his network (at least col. 3, lines 30-45). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate and implement the use of a PNNI node in a network being able to monitor and advertise congestion statuses with other nodes on the network since it would allow for the PNNI node to operate over existing network implementations and therefore enhance the expendability and compatibility of Fukuta and Proctor's network.

As per Claims 9, 17, 26, 34, 43, 51, 60, 68.

Fukuta and Proctor fail to disclose the transit flag being a PNNI topology state parameter. However, the use and advantages for using such an interface is well known to one skilled in the art at the time the invention was made as evidenced by the teachings of Fedyk. Fedyk discloses using PNNI topology state packets within his network (at least col. 3, lines 30-45). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate and implement the use of a PNNI topology state in an ATM network enabling monitoring and

advertising congestion statuses with other nodes on the network since it would allow for the PNNI node to operate over existing network implementations and therefore enhance the expendability and compatibility of Fukuta and Proctor's network by having the PNNI parameters encapsulated within the packets used on the ATM network.

(10) Response to Argument

Appellants argue, substantially, that a) Fukuta's and Proctor's systems communicate at the same level and not a hierarchical level; b) Fukuta does not suggest broadcasting congestion status to another different node; and c) the combination of Fukuta and Proctor is inappropriate.

In response to Appellant's argument a), As taken from the claims, "a node in a single peer group **or** a hierarchical level in the network" (emphasis added). Thus the node can be in a single peer group **or** hierarchical level. Proctor teaches mobile stations receiving and base stations broadcasting a congestion status of the base station. As the claim terminology **is not exclusive**, even *if* such different stations were not to be hierarchical, as Appellant suggests, such a system would be that of peers and thus as the claim states of a single peer group, Proctor would teach the limitations of the claims as the base station would broadcast the congestion status to a peer mobile station. Therefore, if Appellant's interpretation of Proctor were to be correct, with the mobile stations communicating with the base station at the same level (see p. 13, lines 11-12), this would be analogous to the mobile stations and base stations being peers as they communicate with the same equipment and at the same level. If Examiner's

interpretation of Proctor were to be used, wherein a base station has different capabilities than that of a mobile station, such as not being mobile and communicating with multiple mobile stations simultaneously and that the mobile stations cannot communicate directly with one another in a peer-like fashion- rather they rely on the base station to communicate with other mobile stations, the base station would not be a peer with the mobile station and would thus be at a different hierarchical level.

In response to Appellant's argument b), Fukuta teaches broadcasting the congestion status to at least one other node in the network (at least Fig. 1, 13) as Fukuta teaches broadcasting to the transmission node, the transmission node/source being a different node than the node with the congestion. Thus, since it is being broadcast to *one other* node, Fukuta teaches the broad claim terminology interpreted in the broadest form. Even using an excerpt Appellant has previously chosen (see p. 14 3rd paragraph of 8/30/06 remarks) of Fukuta (col. 4, lines 55-62), Fukuta clearly states "when a congestion occurs in a switch...the switch unit adds congestion indicating information...to be sent out to the transmission source of the packet." Thus, when the switch experiences congestion within the switch, indicating information of such is sent to another node, being the transmission source. These are two different nodes, and as such the switch is not telling itself there is congestion, it is telling another node, the transmission/ source node.

Regarding the excerpt (p. 10 section A, 2nd paragraph) of Appellants remarks, citing Fukuta col. 5, lines 7-13; Along with Fig. 1 and 26 and the remainder of the paragraph col. 5, lines 20-23, it can seen that Fukuta is transmitting the congestion

notice outside of the switch/ node where the congestion is occurring, it simply is not transmitted, in this case, to the *destination*, as is clear from the excerpt, and the lines 20-23 following the excerpt. However, the congestion notice is given to at least the *source* of the transmission. It is also important to note the term 'broadcasting' in the claims. As the broadcasting in the claims is 'broadcasted' to at least one node in the group or level, rather than broadcasted to the *entire* group or level, broadcasting to a node in a group in the context of the claim is equivalent to a simple transmission to another node, as Fukuta teaches.

In response to Appellant's argument c) that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Proctor clearly teaches a congestion indicator signal to identify a congestion state of a node while Fukuta also teaches packet congestion control.

In response to Appellant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Fukuta is not relied on for teaching a node in a single peer group a hierarchical

level in the network. Further, Proctor is not relied on for teaching the transit flag or congestion status corresponding to a measured node condition at the node as in claims 3 and 10, rather Fukuta teaches and is relied on for teaching these limitations.

Appellant's arguments against Fedyk are moot as Fukuta and Proctor are relied on for teaching elements 1 through 6 (see p. 14 lines 9-21). It is also noted Fukuta and Proctor are not relied on for teaching element 7 (see p. 14 lines 26-27), rather Fedyk teaches elements 7-8.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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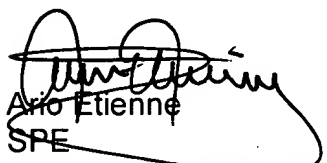

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